

ASSIGNMENT 5

Textbook Assignment: "Tropical Forecasting," "Weather Radar," "Meteorological and Oceanographic Briefs," and "Administration and Training." Pages 11-1 through 14-8.

- 5-1. Of the following statements, which one is valid regarding the development of tropical systems?
1. Trade inversions may accelerate development
 2. Warmer, drier air may accelerate development
 3. Twice as many tropical systems develop over the Atlantic Ocean as the Pacific Ocean
 4. Cooler, drier air tends to hamper development
- 5-2. Which of the following weather patterns would be indicative of tropical cyclone development?
1. Easterlies increasing with height
 2. Cyclonic turning in the wind field
 3. Outflow at the lower levels
 4. Decreasing surface pressure gradient to the north of the suspect area
- 5-3. Long period swell waves may be an indication of the development of a tropical system.
1. True
 2. False
- 5-4. All EXCEPT which of the following weather patterns would be an indication of the deepening of a tropical system?
1. Movement over warmer water
 2. The presence of a trade inversion
 3. Poleward migration of the system
 4. Deceleration of the system
- 5-5. Tropical cyclones that form along the eastern periphery of a polar trough tend to move in what direction?.
1. Toward the southeast
 2. Toward the west
 3. 90° to the left of the orientation of the trough line
 4. Along the trough
- 5-6. Upper-level winds may be used for the steering of tropical systems. Which of the following wind patterns should be given the most consideration?
1. Those to the rear of the system
 2. Those in advance of the system
 3. Those in the left semicircle of the system
 4. Those in the right semicircle of the system
- 5-7. Which of the following synoptic features would be an indicator of tropical cyclone recurvature?
1. The base of the polar westerlies lowers to 15,000 to 20,000 feet east of the storm's latitude
 2. There are no breaks in the subtropical high
 3. Long waves are stationary or slowly progressive
 4. The neutral point in the southern extremity of the trough in the westerlies at the 500-hPa level lies poleward of the storm's latitude
- 5-8. Assume that the associated long wave is progressive, and the surface high slopes to the southeast with height. Which of the following weather patterns would be indicated relative to a tropical cyclone?
1. The tropical cyclone comes under the influence of the upper westerlies, and its track would reverse itself
 2. The tropical cyclone comes under the influence of the upper easterlies, and its track would reverse itself
 3. The tropical cyclone comes under the influence of the upper easterlies, and a large degree of recurvature would take place
 4. The tropical cyclone comes under the influence of the upper westerlies, and a small degree of recurvature would take place

- 5-9. What weather pattern may develop when a tropical cyclone moves northward into an area with a strong temperature gradient?
1. The tropical cyclone center will maintain its circulation, and the area of gale force winds will decrease
 2. The tropical cyclone center will lose its circulation, and the area of gale force winds will increase
 3. The tropical cyclone center will lose its circulation, and the area of gale force winds will decrease
 4. The tropical cyclone center will maintain its circulation, and the area of gale force winds will increase
- 5-10. If you use the regression equation method for forecasting the movement of typhoons, all EXCEPT which of the following criteria should be considered?
1. The 700-hPa heights and tendency 10° latitude from the typhoon's center, and 90° to the right of its path of motion
 2. The 700-hPa level moisture
 3. The 700-hPa heights and tendency 10° latitude north of the typhoon's center
 4. The intensity and orientation of the axis of the subtropical anticyclone that is steering the system
- 5-11. Which of the following is the correct MANOP heading for tropical cyclone warnings in the Atlantic Ocean?
1. WHNT ____ KNCA
 2. WHPN ____ KNGA
 3. WHPN ____ KNGU
 4. WHNT ____ KNGU
- 5-12. Which of the following is the correct WOP heading for tropical cyclone warnings in the western Pacific Ocean?
1. WTPN ____ PGTW
 2. WTPN ____ PGUA
 3. WTPN ____ PGUM
 4. WTPA ____ PGTW
- 5-13. Which of the following wavelengths is considered optimum for use by weather radar in the detection of precipitation?
1. 1 to 5 cm
 2. 5 to 10 cm
 3. 15 to 20 cm
 4. 20 to 25 cm
- 5-14. The ability to distinguish between two targets in the same direction from the radar, but at different ranges, is a definition of what term?
1. Range finding
 2. Range differentiation
 3. Range resolution
 4. Range attenuation
- 5-15. The advent of the WSR-88D occurred during the period 1977 through 1979 in the United States at what location?
1. The National oceanographic and Atmospheric Administration (NOAA) Environmental Research Laboratories, Washington D.C.
 2. The University of Colorado at Boulder
 3. The Naval Research Laboratory (NRL) San Diego
 4. The National Severe Storms Laboratory in Oklahoma
- 5-16. Which of the following would be an example of velocity aliased data?
1. Velocities that can be measured without error
 2. Velocities that exceed the maximum unambiguous velocity
 3. Velocities equal to the Nyquist frequency
 4. Wind speeds equal to the Nyquist frequency
- 5-17. A radar set hearing a previous pulse, while listening for the most recent pulse, would be a definition of what term?
1. Attenuation
 2. Range-folding
 3. Aliased data
 4. Pulse repetition frequency (PRF) reversal
- 5-18. In the radials where it appears, range-folded data has what type appearance?
1. Baseball bat
 2. Globular
 3. Elliptical
 4. Spiked

- 5-19. Which of the following statements is NOT accurate pertaining to ground clutter?
1. Ground clutter normally appears as a cluster of points that have a speckled nature
 2. Ground clutter may be identifiable as wedges of different colors
 3. Decreasing the antenna elevation will decrease ground clutter
 4. A time-lapse of the Reflectivity products will show no movement of ground clutter returns
- 5-20. What is the maximum number of clutter suppression regions that may be edited at the Unit Control Position (UCP)?
1. 15
 2. 12
 3. 10
 4. 5
- 5-21. The presence of sidelobes may have an impact on which of the following parameters?
1. The pulse repetition frequency (PRF)
 2. The reflectivity of ground clutter
 3. The velocity pattern in strong echo regions
 4. The accurate assessment of storm cloud tops
- 5-22. Anomalous returns may occur near sunrise and sunset for several radials due to solar effects. What appearance may these solar effects take?
1. Numerous "speckled" areas
 2. A narrow "baseball bat" shape
 3. Numerous "spiked" areas
 4. "Elliptically" shaped returns
- 5-23. The Mean Radial Velocity Cross-Section product may be used as an aid in identifying mesocyclone signatures.
1. True
 2. False
- 5-24. The mesocyclone algorithm provides the position of the mesocyclone reflected onto the lowest elevation angle in which the mesocyclone was detected. What fact makes this possible?
1. Mesocyclones cannot be detected by doppler radar at mid and high levels of the atmosphere
 2. The higher the elevation angle, the less accurate the tracking information
 3. Mesocyclones can only be identified at low elevation angles
 4. Mesocyclones normally "tilt" with increasing height
- 5-25. Which of the following procedures is best for identifying wind shear in the doppler velocity field?
1. Note changes in the velocity field over time
 2. Increase the unit gain
 3. Note wider bands in the velocity field
 4. Note any elliptical shaped returns
- 5-26. The Cross-section product can integrate returns from cloud layers from the surface to what maximum height?
1. 30,000 ft
 2. 50,000 ft
 3. 70,000 ft
 4. 90,000 ft
- 5-27. Stratus-type clouds may NOT be detected by the WSR-88D for which of the following reasons?
1. Transparency of the layer
 2. Vertical extent of the layer
 3. The size of the cloud particles
 4. Stratus-type clouds generally form at levels below the lowest antenna angle
- 5-28. Frontal precipitation from stratiform clouds is occurring at your station. Which of the following statements would be valid when you observe the wind profile on the WSR-88D?
1. The wind profile may be useful in determining the nature of the front
 2. Backing of the wind profile with height would indicate warm air advection
 3. Veering of the wind profile with height would indicate cold air advection

- 5-29. The Mesoscale Convective System (MCS) includes all precipitation systems 11 to 270 nm wide that contain which of the following features?
1. Weak convection
 2. Deep convection
 3. Heavy fog
 4. A center of action
- 5-30. The reflectivity of hydrometers is lower immediately below the bright band for which of the following reasons?
1. The decreased downward velocity of the hydrometers
 2. The increased size of the hydrometers
 3. The decreased concentration of the hydrometers
 4. The increased concentration of the hydrometers
- 5-31. Which of the following Alert Thresholds is storm based only?
1. Grid
 2. Volume
 3. Area
 4. Forecast
- 5-32. All EXCEPT which of the following statements regarding an operational radar coded message (RCM) is accurate?
1. It can only be requested from the display menu
 2. It is an alphanumeric only product
 3. It is also known as a "post-edit alphanumeric RCM"
 4. It is available to all units
- 5-33. Graphics products may be annotated at all Principal User Processors (PUPS).
1. True
 2. False
- 5-34. What is the maximum number of alert categories available to each alert area?
1. 10
 2. 8
 3. 6
 4. 4
- 5-35. All EXCEPT which of the following status options is operator selected?
1. Monitor Performance Display
 2. System Status
 3. Status of Background Maps
 4. Wavelength and Frequency Status
- 5-36. What are the two types of archive devices associated with a PUP?
1. Optical disk and CD-ROM
 2. CD-ROM and streamer tape
 3. Optical disk and streamer tape
 4. Optical disk and 3.5 HD disk
- 5-37. OPNAVINST 3140.24 provides specific guidance and criteria applicable to which of the following subjects?
1. WEAX/AVWX forecasts
 2. Climatology
 3. Post-deployment reports
 4. Destructive weather warnings
- IN ANSWERING QUESTION 5-38, REFER TO TABLE 13-1 IN YOUR TRAMAN.
- 5-38. Assume that destructive winds are forecast to be at your station within 48 hours. What condition of readiness (COR) would be applicable?
1. Condition I
 2. Condition II
 3. Condition III
 4. Condition IV
- 5-39. Which of the following publications outlines procedures for obtaining climatic information?
1. Atmospheric Climatic Publications; FLENUMMETOCDET ASHEVILLENOTE 3146
 2. Atmospheric Climatic Publications; NAVEDTRA 43431
 3. Atmospheric Climatic Publications; NAVMETOCCOMNOTE 3140
 4. Atmospheric Climatic Publications; FLENUMMETOCCENNOTE 3143
- 5-40. The "Warnings Plot" program of GFMP is capable of plotting which of the following messages?
1. High wind and seas warnings
 2. Tropical cyclone warnings
 3. Both 1 and 2 above
 4. Ice edge positions

- 5-41. Which of the following statements is valid regarding the GF MPL "Surge" program?
1. It provides a "worst case" forecast
 2. The program is available for the Pacific Ocean basin only
 3. If a coastal station of interest is not one of the menu options, you may not input characteristics manually
 4. The estimated peak storm surge output is a function of coastline characteristics only
- 5-42. The publication *Environmental Effects on Weapon's Systems and Naval Warfare*, (S) , RPl, contains information on ASW, SEW, ASUW, AAW, and STW warfare.
1. True
 2. False
- 5-43. In what manner may an increase in water depth degrade bottom mine effectiveness?
1. By decreasing the actuation width of the mine
 2. By increasing the actuation width of the mine
 3. By increasing the damage width of the mine
 4. By increasing mine burial upon impact
- 5-44. Subsurface current speed is important in MIW operations for which of the following reasons?
1. Decreased subsurface current speeds may result in scouring of mines
 2. Decreased subsurface current speeds may result in mine dip
 3. Decreased subsurface current speeds may increase ambient noise
 4. "Mine walking" may occur
- 5-45. Which of the following statements regarding MIW is accurate?
1. Bottom scattering is dependent on grazing angle
 2. Bottom sediment has no effect on MIW operations
 3. The weight of a mine affects the "plastic flow"
 4. Burial has significant impact on magnetic moored mines
- 5-46. Which of the following parameters is NOT a significant factor in MIW operations?
1. The clarity of the water
 2. The salinity of the water
 3. The depth of the water
 4. Bioluminescence
- 5-47. The acronym "CATF" stands for what officer?
1. Commander, Allied Task Force
 2. Commander, Amphibious Troop Force
 3. Commander, Amphibious Task Force
 4. Commander, Amphibious Flotilla
- 5-48. OA division personnel should test the adequacy of support and support timing during what phase of an amphibious operation?
1. The Planning phase
 2. The Rehearsal phase
 3. The Movement phase
 4. The Assault phase
- 5-49. When does the assault phase of an AMW operation begin?
1. When troops first reach the beach
 2. When amphibious vehicles debark the ships for the beach
 3. When troops man amphibious vehicles
 4. When the task force first reaches the amphibious objective area (AOA)
- 5-50. What is the single most important environmental parameter in amphibious assaults?
1. The deep water wave height
 2. The swell wave period
 3. The modified surf index
 4. The littoral current
- 5-51. Which of the following statements is valid regarding offshore currents?
1. Tidal currents are not categorized as offshore currents
 2. Offshore currents are found outside the surf zone
 3. Offshore currents are generated by waves breaking over sandbars
 4. Offshore currents include littoral currents

- 5-52. What annex standardizes meteorological and oceanographic information for the planning and execution of naval exercises?
1. ANNEX W to the numbered Fleet Basic OPORD
 2. ANNEX H to the numbered Fleet Basic OPORD
 3. The ANNEX identifier will vary, but the required information will always be found in the numbered Fleet Basic OPORD
 4. ANNEX B to the numbered Fleet Basic OPORD
- 5-53. Guidance for the preparation and mailing of classified Meteorological and oceanographic (METOC) data is contained in what instruction?
1. NAVMETOCCOMINST 3100.2
 2. OPNAVINST 1510.1
 3. NAVMETOCCOMINST 5520.1
 4. OPNAVINST 5510.1
- 5-54. Copies of all weather records are to be retained for a minimum of how many months?
1. 12
 2. 24
 3. 3
 4. 6
- 5-55. A Unit Situation Report (SITREP) would be required in which of the following circumstances?
1. All accident/incident occurs within the vicinity of a METOC unit
 2. A CASREP is sent from a shore-based METOC unit
 3. An accident/incident occurs at a METOC unit, and is weather related
 4. TMI accident/incident occurs aboard an underway unit and is not weather related
- 5-56. METOC commands with aviation units are required to annually conduct instrument ground school.
1. True
 2. False
- 5-57. Commands should review and update forecaster handbooks at what interval?
1. Quarterly
 2. Semiannually
 3. Annually
 4. Every 2 years
- 5-58. All EXCEPT which of the following statements is accurate regarding METOC post-deployment reports?
1. METOC post-deployment reports are always unclassified
 2. NAVMETOCCOMINST 3140.23 outlines content and format of METOC post-deployment reports
 3. METOC post-deployment reports should contain a section on any unique weather conditions experienced
 4. METOC post-deployment reports should contain a section on services provided to other units
- 5-59. What directive outlines the responsibilities for the training of NAVMETOCCOM personnel?
1. NAVMETOCCOMINST 1515.1
 2. NAVMETOCCOMINST 1500.2
 3. NAVMETOCCOMINST 1510.4
 4. NAVMETOCCOMINST 3100.4
- 5-60. The responsibility for technical inspection of afloat units lies with what authority?
1. COMNAVMETOCCOM
 2. NAVOCEANO
 3. The respective Fleet Commanders
 4. The theater METOCEN

